

# Service Manual

Mini Cassette

Stereo Cassette Player



## RQ-X11

Colour

(K).....	Black Type
(A).....	Blue Type
(S).....	Sliver Type

Area

Suffix for Model No.	Areas	Colour
[E]	Europe	(K) (A) (S)
[GC]	Asia, Latin America, Middle Near East and Africa areas.	(K)



### MECHANISM SERIES : AR20

#### ■ SPECIFICATIONS

Power Requirement: Battery; with one "AA" size (R6/LR6) battery (DC: 1.5V)  
AC; with optional AC adaptor RP-AC11

Power Output: 5 mW + 5 mW (Max).

Input: DC IN; 1.5V (  $\diamond$ -C- $\diamond$  )

Output: Headphones; 20  $\Omega$  ( $\phi$ 3.5)

Dimensions: 109.9(W)  $\times$  80.5(H)  $\times$  30.9(D)mm

Weight: 163g (without batteries)

Frequency Response: 30 ~ 18,000Hz (Normal/CrO<sub>2</sub>/Metal)  
(-6dB)

Tape Speed: 4.8cm/s

Track System: 4-track 2-channel stereo playback

#### Notes:

1. Weights and dimensions shown are approximate.
2. Design and specifications are subject to change without notice.

※ Dolby noise reduction manufactured under license from Dolby Laboratories Licensing Corporation.

"Dolby" and the double-D symbol are trade marks of Dolby Laboratories Licensing Corporation.

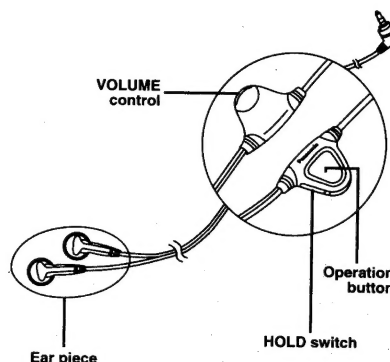
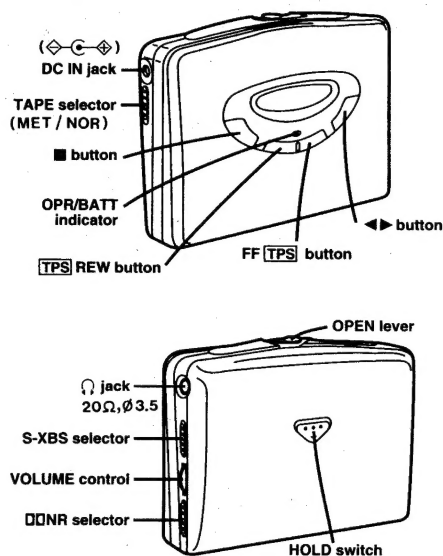
#### ⚠ WARNING

This service information is designed for experienced repair technicians only and is not designed for use by the general public. It does not contain warnings or cautions to advise non-technical individuals of potential dangers in attempting to service a product. Products powered by electricity should be serviced or repaired only by experienced professional technicians. Any attempt to service or repair the product or products dealt with in this service information by anyone else could result in serious injury or death.

# Panasonic®

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## LOCATION OF CONTROLS



## REMOTE CONTROL OPERATION

Before using, plug the stereo earphones into the  $\phi$  jack and be sure to release the hold state on the remote control.

### To adjust the volume

Before using the VOLUME on the remote control, be sure to adjust the volume control on the main unit. "5-7" is the average volume level.

### To change the tape operation

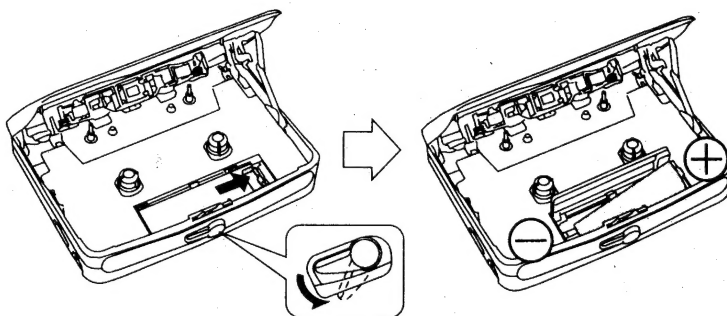
- : Press once to play and stop.
- : Press and hold during playback to change the direction.
- : Press twice for fast forward or FF TPS.
- : Press three times for rewind or REW TPS.

• When pressing the button twice or three times in succession, press it within one second and at equal interval.

## POWER SOURCE

### • Dry cell battery

Insert a R6/LR6 battery (UM-3 or equivalent, not included).



## ACCESSORIES

- Stereo earphones with remote controller ..... RFEV134P-KS



## MEASUREMENTS AND ADJUSTMENTS

### ADJUSTMENT INSTRUCTIONS

#### READ CAREFULLY BEFORE ATTEMPTING ADJUSTMENT

- |                                       |  |
|---------------------------------------|--|
| 1. Set volume control to maximum.     | 5. Set hold switch to OFF.   |
| 2. Set Dolby NR Switch to OFF.        | 6. Set power source voltage to 1.5V DC.  |
| 3. Set Metal/normal switch to NORMAL. | 7. Output of signal generator should not be higher than necessary to obtain an output reading. |
| 4. Set S-XBS Switch to OFF.           |  |

### CONTROL POSITIONS AND EQUIPMENT USED

1. Frequency counter

### TAPE SECTION

ITEM	TEST TAPE	MEASUREMENT POINT	ADJUSTMENT POINT	PROCEDURE
Tape speed	QZZCWAT (3kHz, -10dB)	Connect the frequency counter to Headphones jack (20Ω) (Refer to Fig. 1)	VR1 (Refer to Fig. 2)	Playback the central part of the tape and adjust VR1 so that the tape speed is as follows. Forward: 3000 ± 10Hz Reverse: 2940 ~ 3060Hz Make sure that the frequency range is within ±60Hz for between "Forward" and "Reverse" mode.

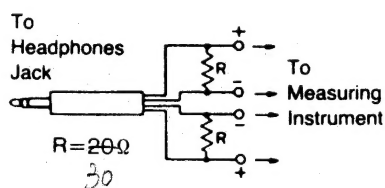


Fig. 1

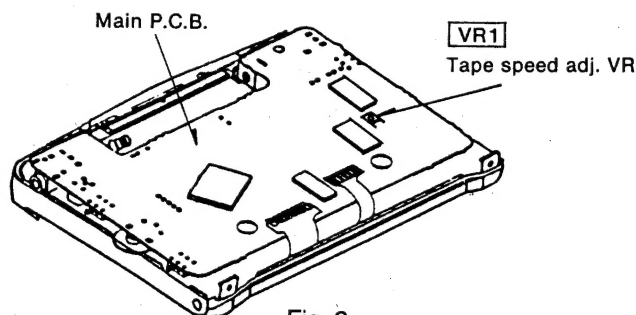


Fig. 2

## PROCEDURES FOR DISASSEMBLY OF THE MAIN PARTS ON THE MECHANISM

### How to remove the mechanism

Follow the procedures in Ref. Nos. 1 ~ 4 in the Disassembly Instructions. (See page 5.)

※ After replacing the parts, refer to the notes for assembly. (See page 7.)

### How to remove the head block and pinch roller

1. Follow the procedures in Ref. Nos. 1 and 4 in the Disassembly Instructions, remove the cabinet ass'y and cassette lid ass'y.  
(See page 5.)
2. Unsolder the head FPC. (6 points.)  
(See Fig. 3.)

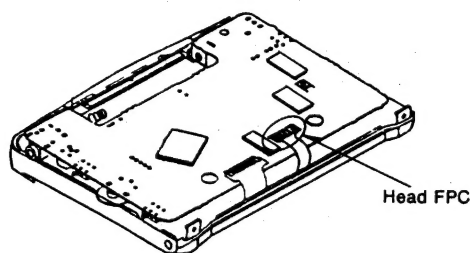


Fig. 3

3. Remove the head block in the direction of the arrow ① and ②. (See Fig. 4. and 5.)
4. Remove the pinch roller in the direction of the arrow ③. (See Fig. 6.)
5. Remove 2 springs in order to remove the pinch roller. (See Fig. 7.)

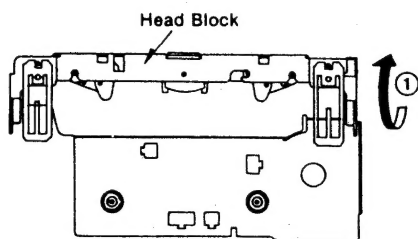


Fig. 4

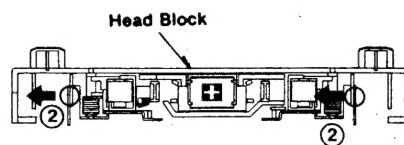


Fig. 5

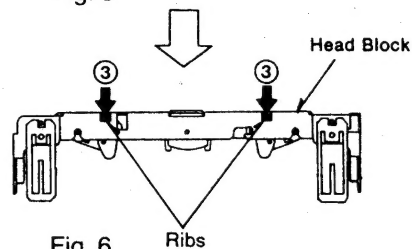


Fig. 6

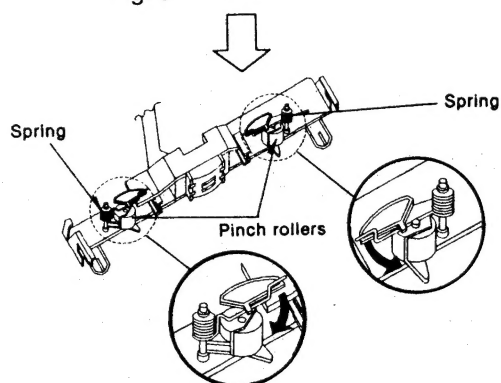


Fig. 7

## • How to remove the motor and belt

1. Follow the procedures in Ref. Nos. 1 and 2 in the Disassembly Instructions. (See page 5.)
2. Remove 2 screws (①, ②). (See Fig. 8.)
3. Remove the motor in the direction of the arrow. (See Fig. 9.)
4. Remove the belt from the motor. (See Fig. 9.)

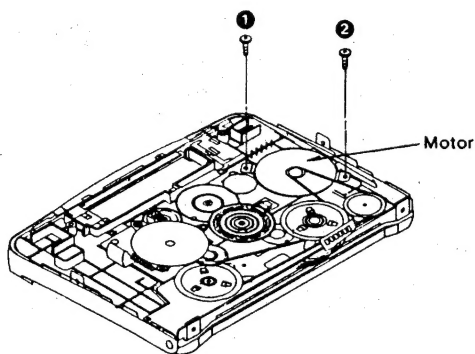


Fig. 8

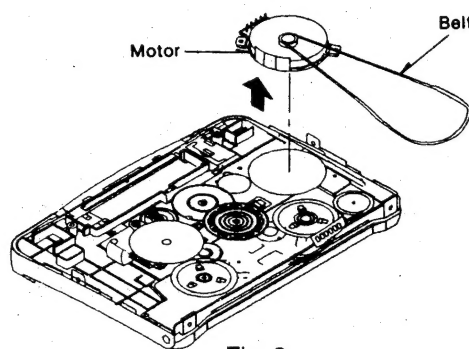


Fig. 9

## • How to remove the rotary switch

1. Remove 3 screws (①~③). (See Fig. 10.)

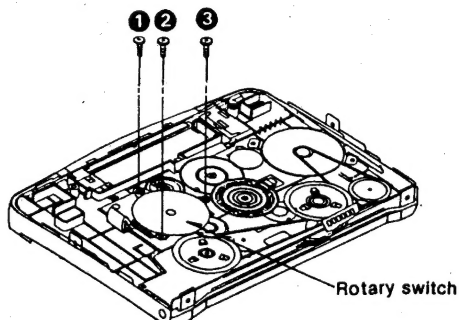
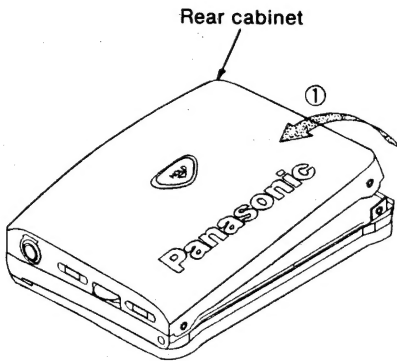
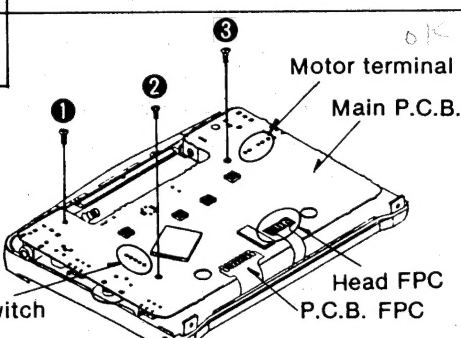
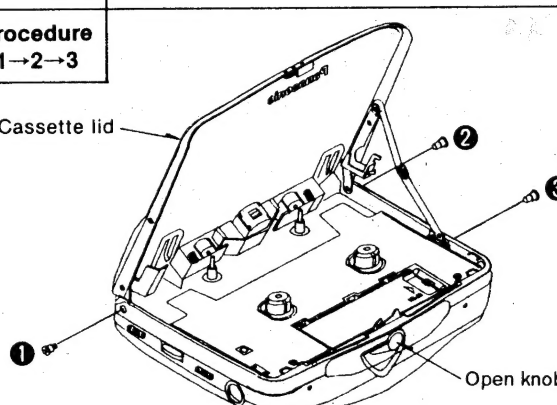
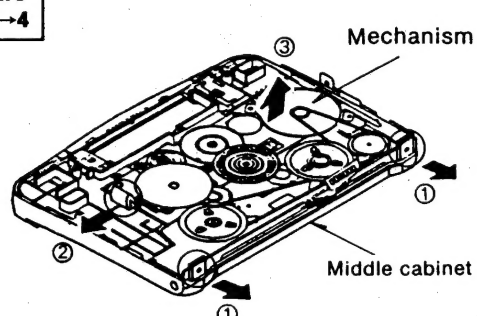
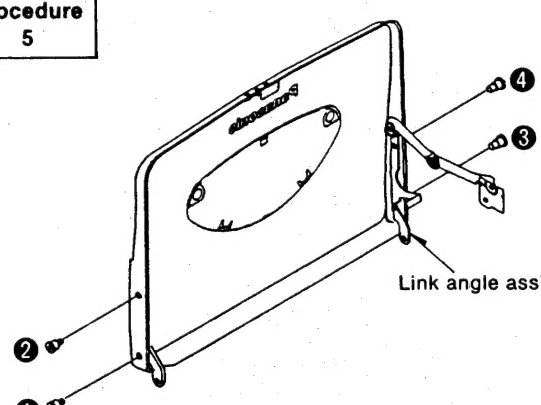
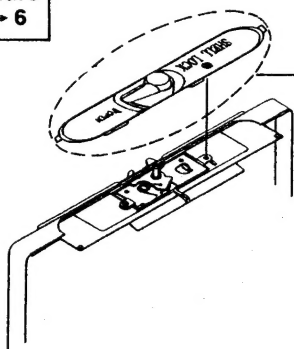
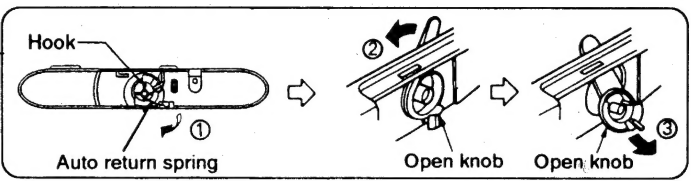
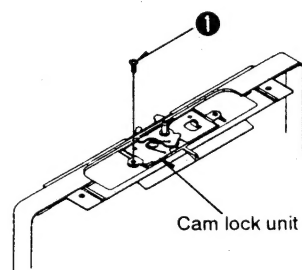
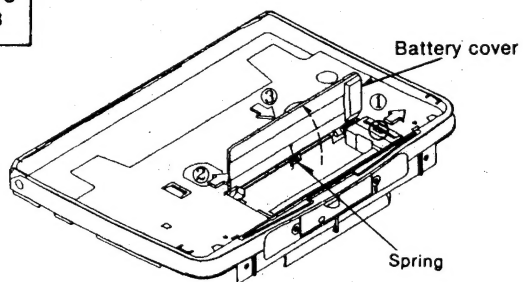
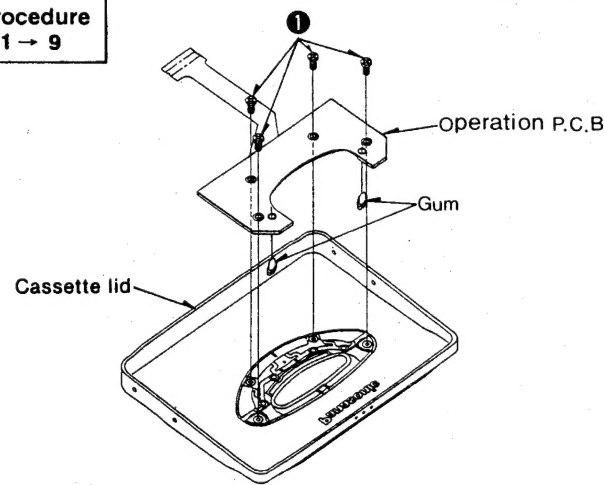
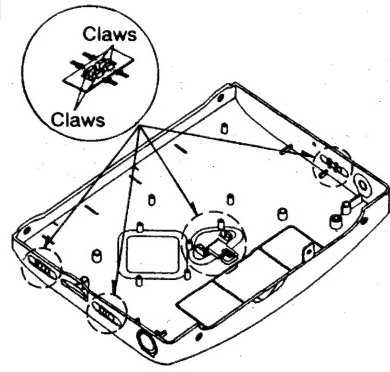


Fig. 10

# DISASSEMBLY INSTRUCTIONS

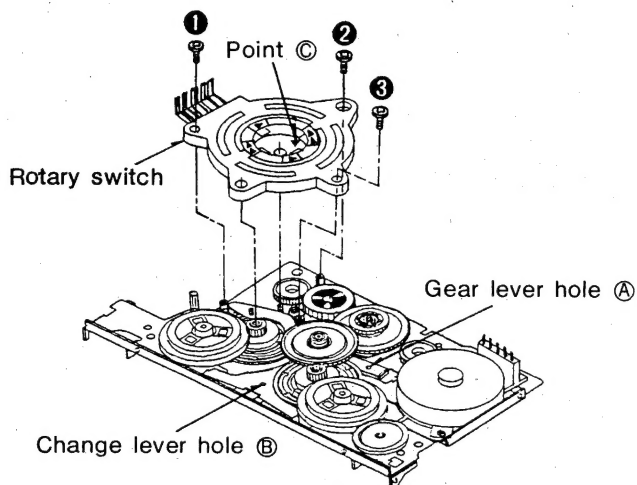
Ref. No. 1	Removal of the rear cabinet	 <p>1. Remove 6 screws (①~⑥).</p> <p>2. Remove the rear cabinet in the direction of arrow ①.</p>	
Procedure 1			
Ref. No. 2	Removal of the main P.C.B.	Ref. No. 3	Removal of the cassette lid
Procedure 1→2	 <p>1. Remove the 3 screws (①~③).</p> <p>2. Remove 8 solders of the P.C.B. FPC.</p> <p>3. Remove 6 solders of the head FPC.</p> <p>4. Remove 5 solders on the motor terminal.</p> <p>5. Remove 5 solders on the rotary switch terminal.</p>		Procedure 1→2→3
			 <p>1. Push the open knob, and then open the cassette lid.</p> <p>2. Remove 3 screws (①~③) in order to remove the cassette lid.</p>
Ref. No. 4	Removal of the middle cabinet and mechanism	Ref. No. 5	Removal of the link angle ass'y
Procedure 1→2→3→4	 <p>1. Remove the middle cabinet in the direction of arrows ①, ② and then remove it in the direction of arrow ③.</p>		Procedure 5
			 <p>1. Remove 4 screws (①~④).</p>

<b>Ref. No.</b> 6	<b>Removal of the open knob</b>	
<b>Procedure</b> 1 → 3 → 6		
		<ol style="list-style-type: none"> <li>1. Release the hook of the auto return spring in the direction of arrow ①, and then remove the auto return spring.</li> <li>2. Rotate the open knob in the direction of arrow ②, and then remove the open knob in the direction of arrow ③.</li> </ol>
<b>Ref.No.</b> 7	<b>Removal of the cam lock unit</b>	<b>Ref.No.</b> 8
<b>Procedure</b> 1 → 3 → 6 → 7		<b>Ref.No.</b> 8
	<ol style="list-style-type: none"> <li>1. Removal the 1 screw (①).</li> </ol>	 <ol style="list-style-type: none"> <li>1. Open the lithium battery cover in the direction of the arrow ①.</li> <li>2. Remove the battery cover in the direction of arrow ② and ③.</li> <li>3. Remove the spring.</li> </ol>
<b>Ref.No.</b> 9	<b>Removal of the operation P.C.B.</b>	<b>Ref.No.</b> 10
<b>Procedure</b> 1 → 9		<b>Procedure</b> 1 → 10
	<ol style="list-style-type: none"> <li>1. Remove the 4 screws (①)</li> </ol>	 <ol style="list-style-type: none"> <li>• Release the claws of knobs in the direction of arrow, and then remove the switch knobs.</li> </ol>

## Notes for assembly

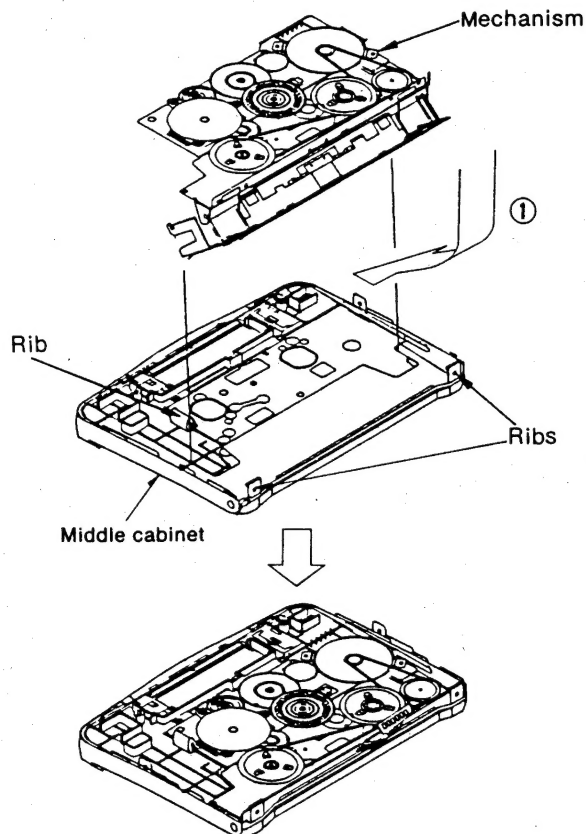
### ■ Notice for assembling the rotary switch

1. Move the gear lever manually until hole ① match the hole of chassis.
2. Move the change lever manually until hole ② match the hole of chassis.
3. Rotate manually the rotary switch gear until the point ③ (▶) direct the REW mark (◀◀).
4. To fix the rotary switch, use 3 screws to tighten it.

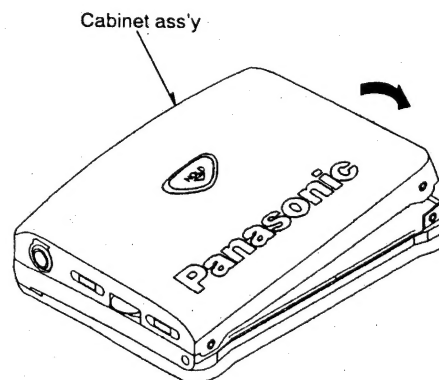
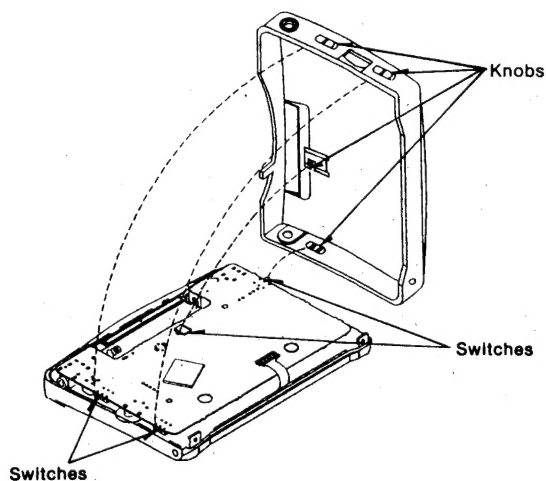


### ■ Notice for assembling the mechanism

1. Install the mechanism in the direction of arrow ①.
2. Engage the mechanism in the ribs of the middle cabinet.
3. Make sure the ribs fully to the mechanism.



### ■ Notice for installing the knobs and assembling the cabinet ass'y



1. Make sure the bosses of the switch are fit in the knobs of the switch when assembling(4 points).

2. Make sure the cabinet ass'y is installed completely and the knobs can be operated after assembled.

**Note:** Before installing the switch knob, be sure to check the claws for defects that would render the claws unserviceable.  
(If a white line like white wax on a claw is found, the claw may be broken when installing the switch knob.)

## ■ HOW TO CHECK OPERATIONS DURING DISASSEMBLY AND SERVICING

## 1. Cassette section

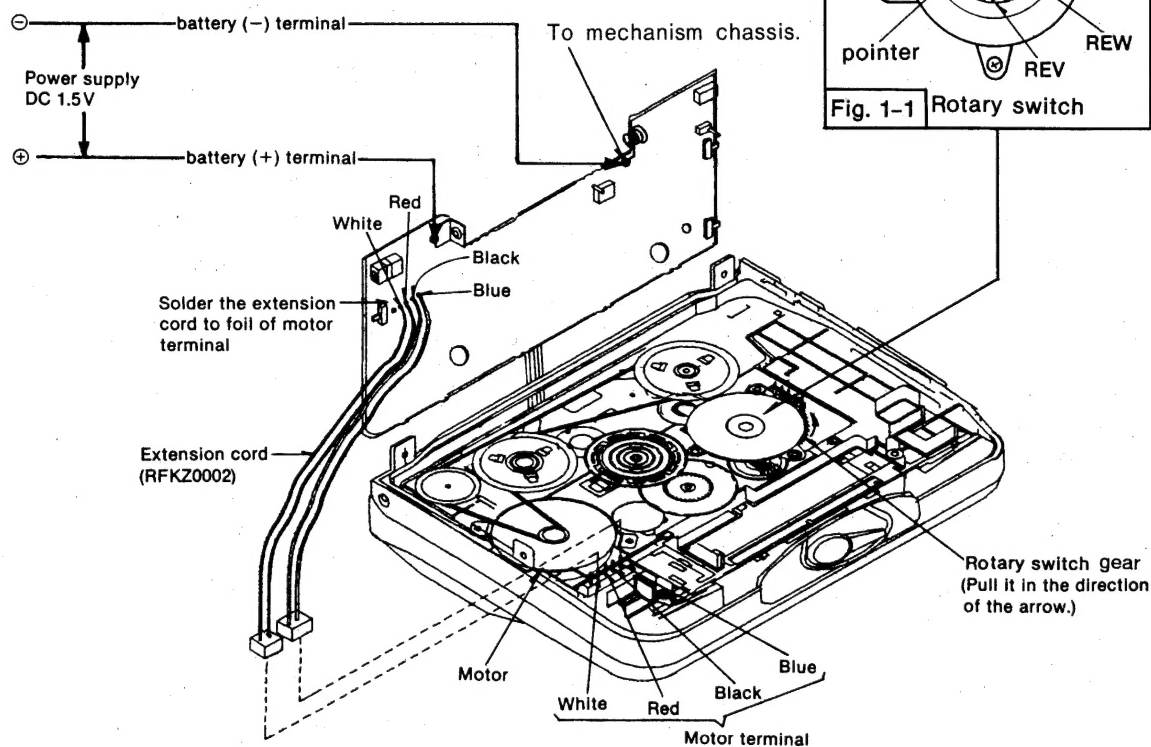
- Check operations during disassembly following the steps.
  - 1) Set the condition as shown in Fig. 1 in accordance with Disassembly Instructions. (DO NOT remove the solders on the head FPC.)
  - 2) Connect the PCB and motor and rotary switch with the extension cord (RFKZ0002).
  - 3) Short the short land with a soldering and then short-circuit them.
    - Short the short land SL1 for Power supply of AMP ON.
    - Short the short land SL2 for Power supply of motor ON.
    - Short the short land SL3 for Microcomputer reset.
    - Short the short land SL4 for Power supply of motor CCW
    - Short the short land SL5 for Open/Close SW: ON.

**Note:** See next page for the points to be short-circuited.

  - 4) Connect the battery (–) terminal to the mechanism chassis earth with a lead wire.
  - 5) Manually operate the rotary switch gear when checking the FWD/REV/FF/REW operation.
    - Rotate manually the rotary switch gear (Fig 1-1) as the arrow direction shown until the checking mode you need direct the pointer.
  - 6) Connect the battery (+) terminal and the battery (–) terminal foil to the power source (DC 1.5V) with a lead wire. (Fig. 1)

**Notes:**

- ① You have to turn off the power when you want to change mechanism mode.
  - ② Even if the mechanism unit is switched to the REV mode in Step 6, the head change-over switch (IC1) will remain in the FWD position, so set the FWD mode to check the audio.  
Before checking the operation problems and adjustments, be sure to release the hold state.  
(Hold switch (S2): "OFF")
  - ③ After checking,  
unsolder the short land SL1 ~ SL5.
- ※ Rotate manually as the direction shown.

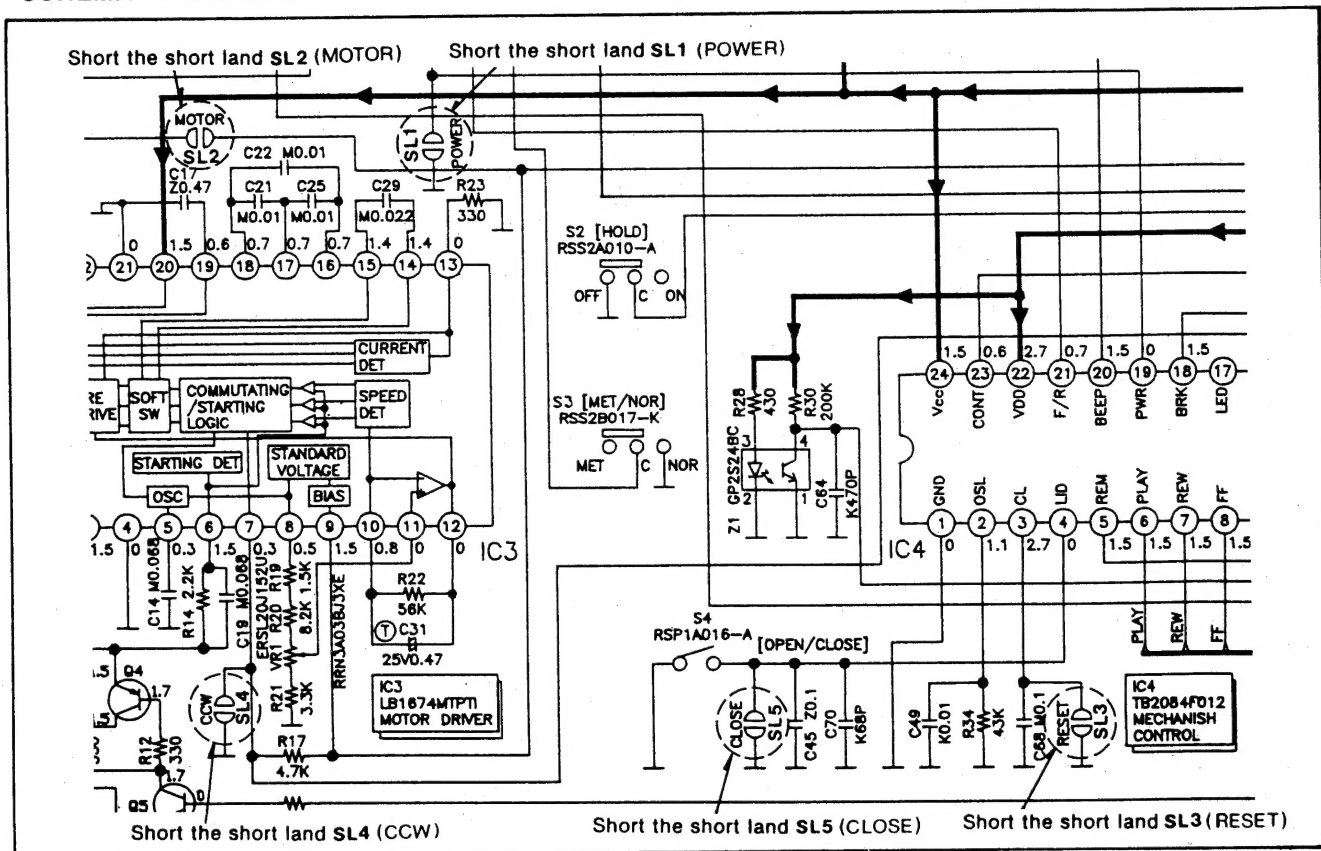


**Fig. 1**

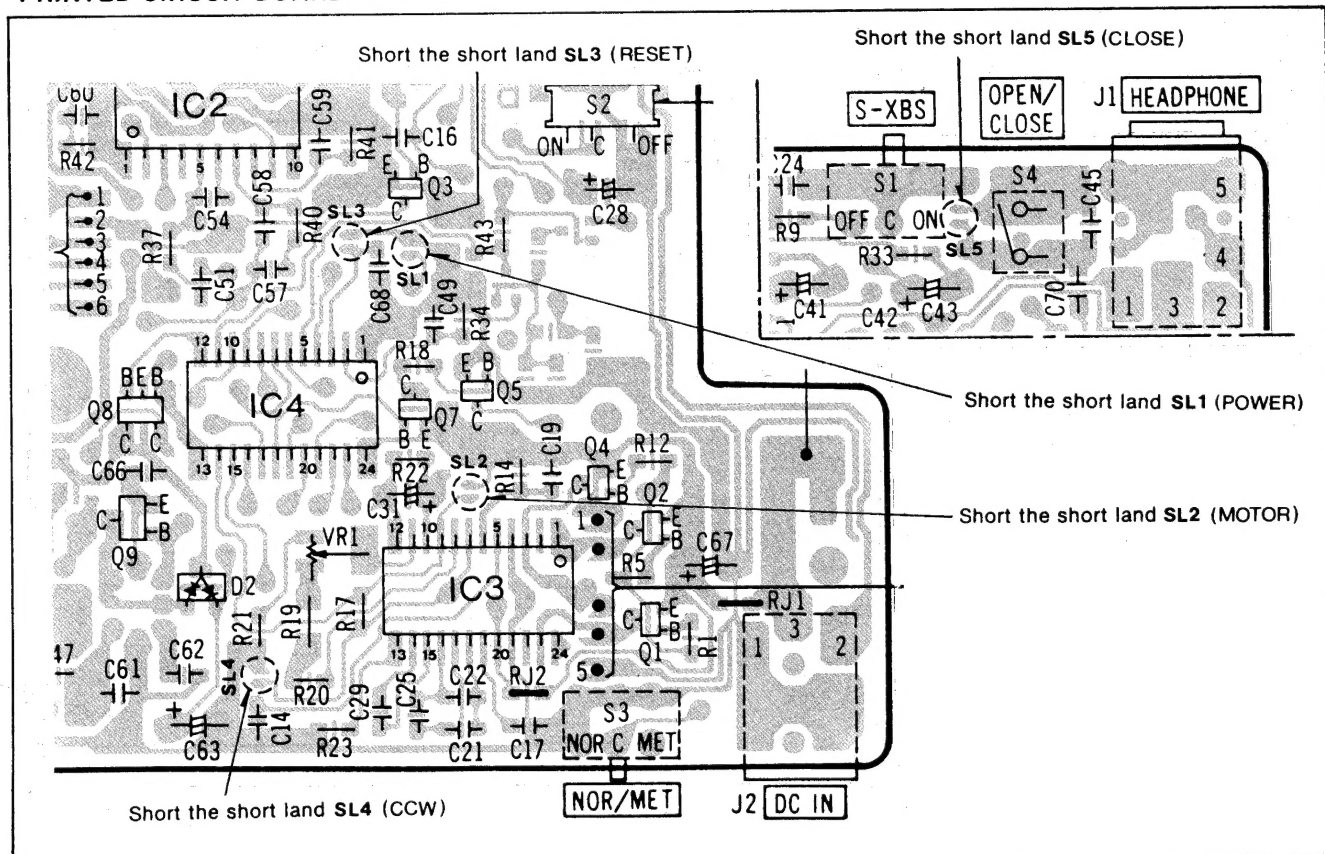


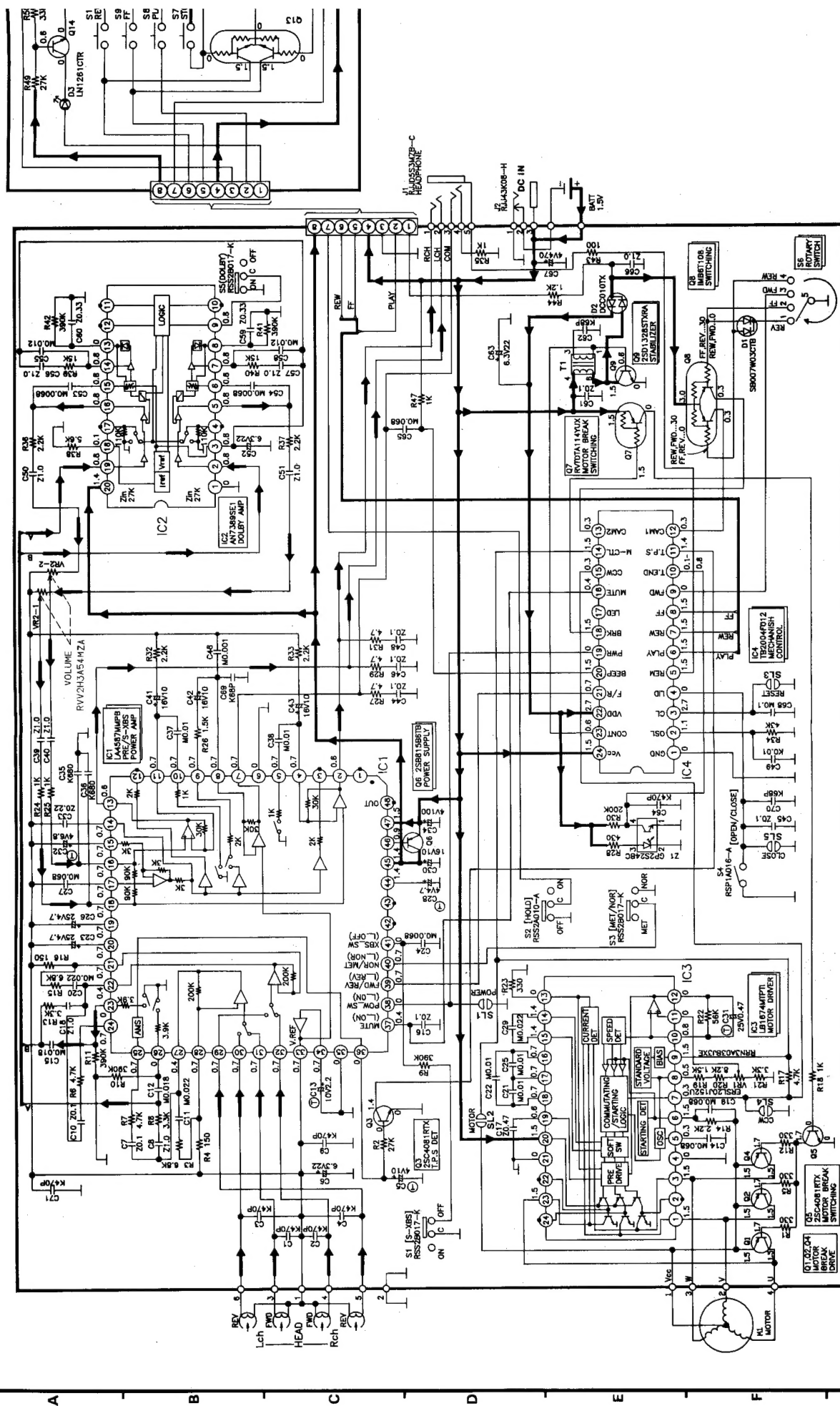
## • Short points

### SCHEMATIC DIAGRAM



### PRINTED CIRCUIT BOARD





# RQ-X11 RQ-X11

## Notes:

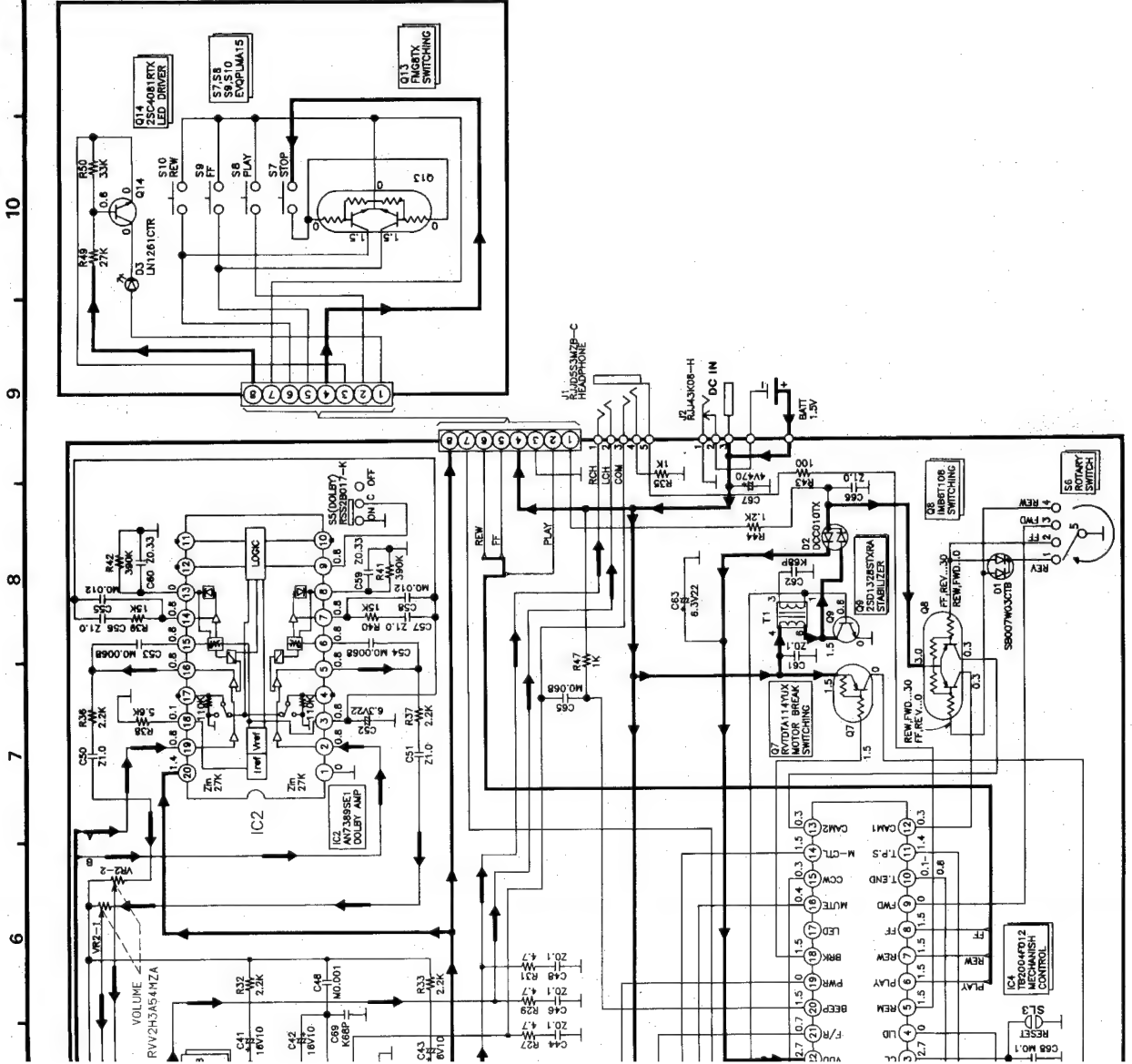
- S1 : S-XBS switch in "OFF" position.
- S2 : Hold switch in "OFF" position.
- S3 : Metal/normal switch in "METAL" position.
- S4 : Open/close switch in "ON" position.
- S5 : Dolby NR switch in "ON" position.
- S6 : Rotary switch in "REV" position.
- S7 : 1...REV, 2...FF, 3...FWD, 4...REW.
- S8 : Stop switch in "OFF" position.
- S9 : Play switch in "OFF" position.
- S10 : Fast forward switch in "OFF" position.
- S11 : Rewind switch in "OFF" position.
- VR1-1 : Volume control VR.
- VR1-2 : Tape speed adjustment VR.
- VR2 : Tape speed measurements are taken with electronics voltmeter from negative terminal of battery.
- No mark...Playback.
- Battery current: No signal.....190 mA (VR: MIN)
- Maximum output.....210 mA (VR: MAX)
- This schematic diagram may be modified at any time with the development of new technology.

→ : PLAYBACK SIGNAL  
→ : B LINE

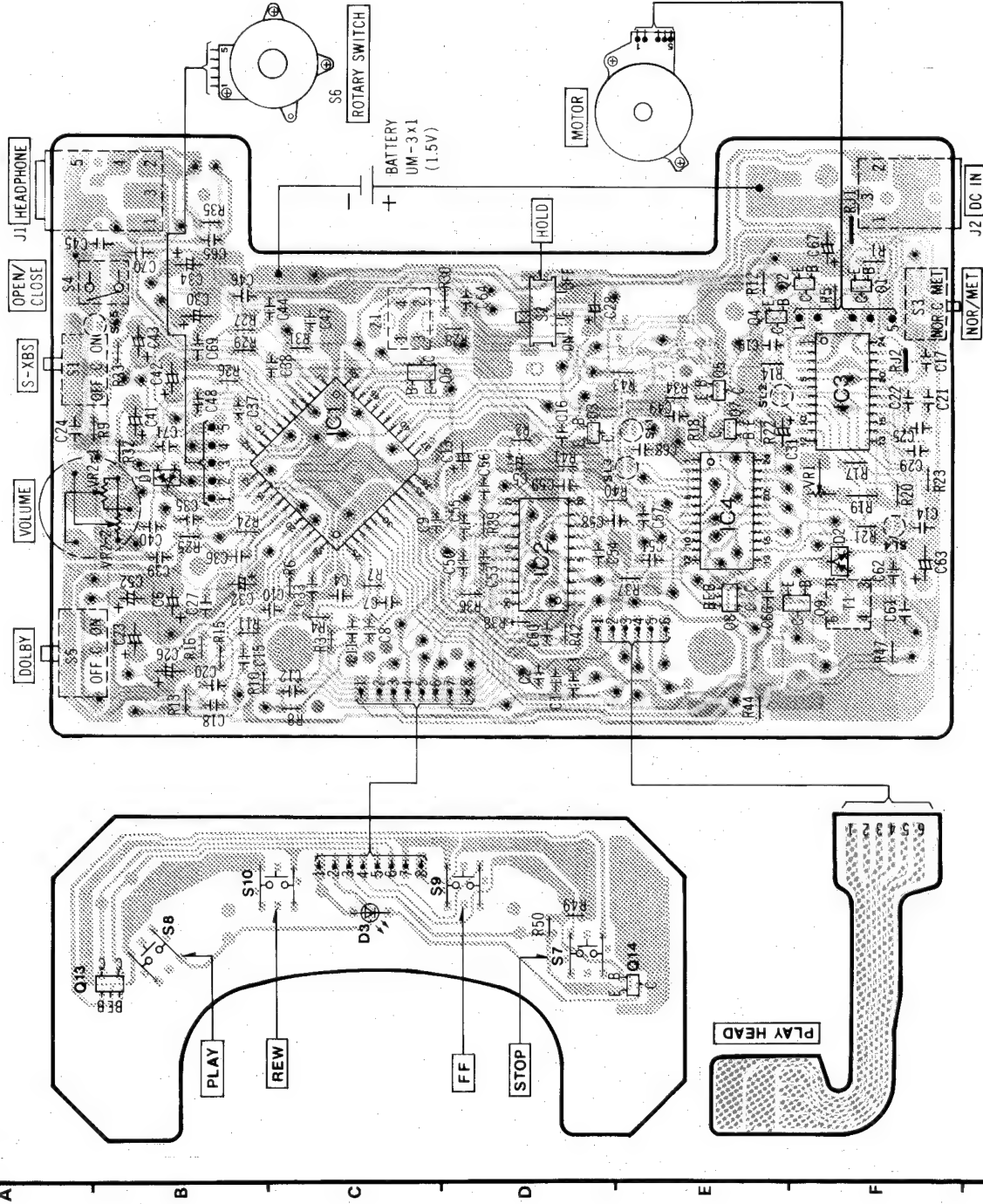
## REPLACEMENT PARTS LIST

Notes: □ Indicates parts that are supplied by TAMACO

Ref. No.	Part No.	Part Name & Description
INTEGRATED CIRCUITS, TRANSISTORS AND DIODES		
IC1 □	LA4587MNPB	I.C. PRE/S-XBS/POWER AMP
IC2 □	AM7389SEPT1	I.C. DOLBY NR
IC3 □	TS20446012	I.C. MECH. DRIVE
IC4 □	2S41577Q106	I.C. MECH. CONTROL
Q1, 2, 4 □	2S41577Q106	Transistor
Q3, 5, 14 □	2S41577Q106	Transistor
Q6 □	2S41577Q106	Transistor
Q7 □	2S41577Q106	Transistor
Q8 □	1M86T108	Transistor
Q9 □	2S01328STXRA	Transistor
Q13 □	FM68TX	Transistor
D1 □	SB007W03CTB	Shotkey Diode
D2 □	DCC010TX	Diode
D3 □	LN1261CTR	Chip L.E.D (RED)
TRANSFORMERS		
T1 □	RL09A004-T	Transformer
VARIABLE RESISTOR		
VR1 □	RN3A03B13VE	V.R. Tape Speed
VR2 □	RV2H3A54WZA	V.R. Volume
PHOTO COUPLER		
Z1 □	GP2524BC	Photo Coupler
SWITCHES		
S1 □	RSS2B017-K	SW. S-XBS
S2 □	RSS2A010-1A	SW. Hold
S3 □	RSS2B017-K	SW. Tape (Met/Nor)
S4 □	RSP1A016-A	SW. (Open/Close)
S5 □	RSS2B017-K	SW. Dolby
S6 □	RSS2B017-K	SW. Rotary
S7 □	RSS2B017-K	SW. Stop
S8 □	EVQPLM15	SW. Play
S9 □	EVQPLM15	SW. Fast
S10 □	EVQPLM15	SW. Rew
JACKS		
J1 □	RJJDS3M2B-C	Jack, Headphones
J2 □	RJJ43K08-H	Jack, DC IN



PRINTED CIRCUIT BOARDS



REPLACEMENT PARTS LIST

Notes: □ Indicates parts that are supplied by TAMACO

Ref No.	Part No.	Part No.	Ref No.
RESISTORS		CAPACITORS	
R1, 5, 12, 23	ERJ6GEYJ331V	C1, 2, 3, 4, 9	ECUVI471KBN
R2, 49	ERJ6GEYJ273V	C5, 71	RCSTOGV106RE
R3, 16	ERJ6GEYJ682V	C6, 52, 53	ECUIC104ZFN
R4, 16	ERJ6GEYJ151V	C7, 10, 16	ECUIC104ZFN
R5, 7, 17	ERJ6GEYJ472V	C8, 18, 39	ECUVNC105ZFN
R6, 18, 21	ERJ6GEYJ332V	C9, 50, 51	ECUVNC105ZFN
R7, 18, 21	ERJ6GEYJ332V	C10, 50, 51	ECUVNC105ZFN
R8, 18, 21	ERJ6GEYJ332V	C11, 20, 29	ECUVIC223MBN
R9, 18, 21	ERJ6GEYJ332V	C12, 15	ECUVIC183MBN
R10, 32, 33	ERJ6GEYJ222V	C13	RCSTI1A225RE
R11, 32, 33	ERJ6GEYJ222V	C14, 19, 27	ECUVIC683MBN
R12, 24, 25	ERJ6GEYJ102V	C15	ECUVIC683MBN
R13	FRS120J152U	C16	ECUVIC683MBN
R14	ERJ6GEYJ822V	C17	ECUVIC474ZFN
R15	ERJ6GEYJ563V	C18	ECUVIC103MBN
R16	ERJ6GEYJ152V	C19	ECUIC103MBN
R17, 29, 31	ERJ6GEYJ47V	C20	ECUIC103MBN
R18	ERJ6GEYJ431V	C21, 22, 25	ECUIC103MBN
R19	ERJ6GEYJ204V	C22	ECUIC103MBN
R20	ERJ6GEYJ433V	C23, 26	ECUIC103MBN
R21	ERJ6GEYJ433V	C24, 53, 54	ECUIC103MBN
R22	ERJ6GEYJ433V	C25	ECUIC103MBN
R23	ERJ6GEYJ433V	C26	ECUIC103MBN
R24	ERJ6GEYJ433V	C27	ECUIC103MBN
R25	ERJ6GEYJ433V	C28	ECUIC103MBN
R26	ERJ6GEYJ433V	C29	ECUIC103MBN
R27	ERJ6GEYJ433V	C30, 41, 42	ECUIC103MBN
R28	ERJ6GEYJ433V	C31	ECUIC103MBN
R29	ERJ6GEYJ433V	C32	ECUIC103MBN
R30	ERJ6GEYJ433V	C33	ECUIC103MBN
R31	ERJ6GEYJ433V	C34	ECUIC103MBN
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R33	ERJ6GEYJ433V	C36	ECUIC103MBN
R34	ERJ6GEYJ433V	C37	ECUIC103MBN
R35	ERJ6GEYJ433V	C38	ECUIC103MBN
R36	ERJ6GEYJ433V	C39	ECUIC103MBN
R37	ERJ6GEYJ433V	C40	ECUIC103MBN
R38	ERJ6GEYJ433V	C41	ECUIC103MBN
R39	ERJ6GEYJ433V	C42	ECUIC103MBN
R40	ERJ6GEYJ433V	C43	ECUIC103MBN
R41	ERJ6GEYJ433V	C44	ECUIC103MBN
R42	ERJ6GEYJ433V	C45	ECUIC103MBN
R43	ERJ6GEYJ433V	C46	ECUIC103MBN
R44	ERJ6GEYJ433V	C47	ECUIC103MBN
R45	ERJ6GEYJ433V	C48	ECUIC103MBN
R46	ERJ6GEYJ433V	C49	ECUIC103MBN
R47	ERJ6GEYJ433V	C50	ECUIC103MBN
R48	ERJ6GEYJ433V	C51	ECUIC103MBN
R49	ERJ6GEYJ433V	C52	ECUIC103MBN
R50	ERJ6GEYJ433V	C53	ECUIC103MBN
R51	ERJ6GEYJ433V	C54	ECUIC103MBN
R52	ERJ6GEYJ433V	C55	ECUIC103MBN
R53	ERJ6GEYJ433V	C56	ECUIC103MBN
R54	ERJ6GEYJ433V	C57	ECUIC103MBN
R55	ERJ6GEYJ433V	C58	ECUIC103MBN
R56	ERJ6GEYJ433V	C59	ECUIC103MBN
R57	ERJ6GEYJ433V	C60	ECUIC103MBN
R58	ERJ6GEYJ433V	C61	ECUIC103MBN
R59	ERJ6GEYJ433V	C62	ECUIC103MBN
R60	ERJ6GEYJ433V	C63	ECUIC103MBN
R61	ERJ6GEYJ433V	C64	ECUIC103MBN
R62	ERJ6GEYJ433V	C65	ECUIC103MBN
R63	ERJ6GEYJ433V	C66	ECUIC103MBN
R64	ERJ6GEYJ433V	C67	ECUIC103MBN
R65	ERJ6GEYJ433V	C68	ECUIC103MBN
R66	ERJ6GEYJ433V	C69	ECUIC103MBN
R67	ERJ6GEYJ433V	C70	ECUIC103MBN
R68	ERJ6GEYJ433V	C71	ECUIC103MBN
R69	ERJ6GEYJ433V	C72	ECUIC103MBN
R70	ERJ6GEYJ433V	C73	ECUIC103MBN
R71	ERJ6GEYJ433V	C74	ECUIC103MBN
R72	ERJ6GEYJ433V	C75	ECUIC103MBN
R73	ERJ6GEYJ433V	C76	ECUIC103MBN
R74	ERJ6GEYJ433V	C77	ECUIC103MBN
R75	ERJ6GEYJ433V	C78	ECUIC103MBN
R76	ERJ6GEYJ433V	C79	ECUIC103MBN
R77	ERJ6GEYJ433V	C80	ECUIC103MBN
R78	ERJ6GEYJ433V	C81	ECUIC103MBN
R79	ERJ6GEYJ433V	C82	ECUIC103MBN
R80	ERJ6GEYJ433V	C83	ECUIC103MBN
R81	ERJ6GEYJ433V	C84	ECUIC103MBN
R82	ERJ6GEYJ433V	C85	ECUIC103MBN
R83	ERJ6GEYJ433V	C86	ECUIC103MBN
R84	ERJ6GEYJ433V	C87	ECUIC103MBN
R85	ERJ6GEYJ433V	C88	ECUIC103MBN
R86	ERJ6GEYJ433V	C89	ECUIC103MBN
R87	ERJ6GEYJ433V	C90	ECUIC103MBN
R88	ERJ6GEYJ433V	C91	ECUIC103MBN
R89	ERJ6GEYJ433V	C92	ECUIC103MBN
R90	ERJ6GEYJ433V	C93	ECUIC103MBN
R91	ERJ6GEYJ433V	C94	ECUIC103MBN
R92	ERJ6GEYJ433V	C95	ECUIC103MBN
R93	ERJ6GEYJ433V	C96	ECUIC103MBN
R94	ERJ6GEYJ433V	C97	ECUIC103MBN
R95	ERJ6GEYJ433V	C98	ECUIC103MBN
R96	ERJ6GEYJ433V	C99	ECUIC103MBN
R97	ERJ6GEYJ433V	C100	ECUIC103MBN
R98	ERJ6GEYJ433V	C101	ECUIC103MBN
R99	ERJ6GEYJ433V	C102	ECUIC103MBN
R100	ERJ6GEYJ433V	C103	ECUIC103MBN

Notes:

- In this printed circuit board diagram, the parts and foil patterns on the board facing toward you are printed in black.
- The opposite side is printed in blue.
- The "•" mark denotes the connection points of double-faced foil patterns (through holes) on both side of the printed circuit board.
- This printed circuit board diagram may be modified at any time with the development of new technology.

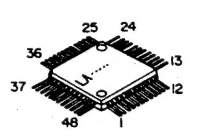
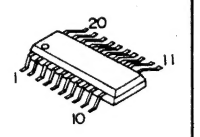
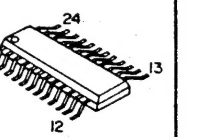
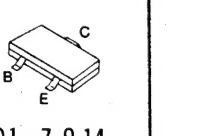
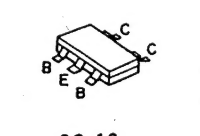
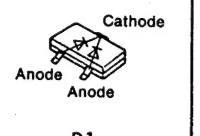
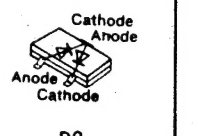
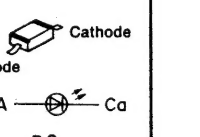
## ■ TERMINAL FUNCTION OF IC

### • IC4 (TB2004F012): Mechanism control

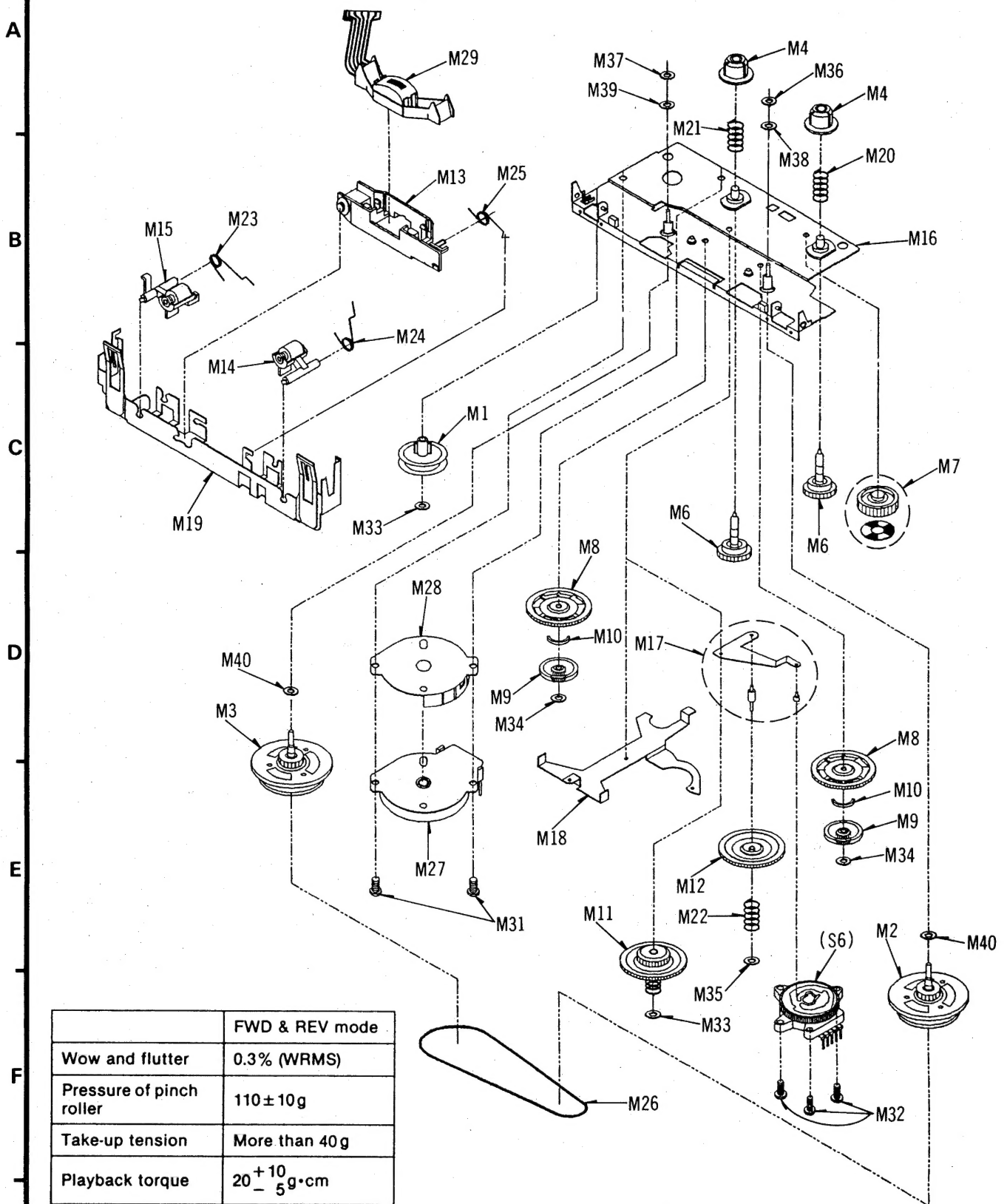
Pin No.	Mark	I/O Division	Function
1	GND	—	GND terminal
2	OSC	I/O	System clock terminal fosc=3.2kHz
3	CL	I	Clear (RESET) terminal
4	LID	I	Detection signal whether the cassette tape is inserted
5	REM	I	Inputs the remote control signal
6	PLAY	I	Inputs the mechanism operation signal (PLAY) At low: PLAY
7	REW	I	Inputs the mechanism operation signal (REW) At low: REW
8	FF	I	Inputs the mechanism operation signal (FF) At low: FF
9	FWD	I	Inputs the mechanism status detection signal (FWD) At low: FWD
10	T-END	I	Inputs the signal for the derction of tape rotation. When the pulse signal is input: The current mode remains set as the tape is rotating. No pulse signal: Stops or starts reverse playback as the tape has stopped rotating (ie, reched the end)
11	TPS	I	Input the TPS control signal.
12	CAM 1	I	Inputs the mechanism status detection signal (FF/REV) At high: FF At cam 2 high: REV

Pin No.	Mark	I/O Division	Function
13	CAM 2	I	Inputs the mechanism status detection signal (REW/REV) At high: REW At cam1 high: REV
14	M-CTL	O	Outputs the motor drive signal (MOTOR ON/OFF). At high: ON At low: OFF
15	CCW	O	Outputs the reversing motor drive control signal At high: REV At low: FF
16	MUTE	O	Outputs the muting signal At low: muting ON
17	LED	O	Outputs the remote control LED signal At low: LED ON
18	BRK	O	Outputs the mechanism operation signal (STOP). At low: STOP
19	POWER	O	Outputs the power switching signal At low: ON
20	BEEP	O	Beep generation terminal of remote control operation
21	F/R	O	FWD/REV select terminal At high: FWD ON At low: REV ON
22	VDD	I	Power supply terminal
23	CONT	O	Outputs the DC-DC converter drive signal
24	VCC	I	Power supply terminal

### • Terminal guide of IC's, transistors and diodes

 <p>IC1</p>	 <p>IC2</p>	 <p>IC3,4</p>	 <p>Q1~7, 9, 14</p>
 <p>Q8, 13</p>	 <p>D1</p>	 <p>D2</p>	 <p>D3</p>

## MECHANISM PARTS LOCATION



	FWD & REV mode
Wow and flutter	0.3% (WRMS)
Pressure of pinch roller	110 ± 10g
Take-up tension	More than 40g
Playback torque	20 <sup>+10</sup> / <sub>-5</sub> g·cm
FF/REW torque	130 ± 30g·cm



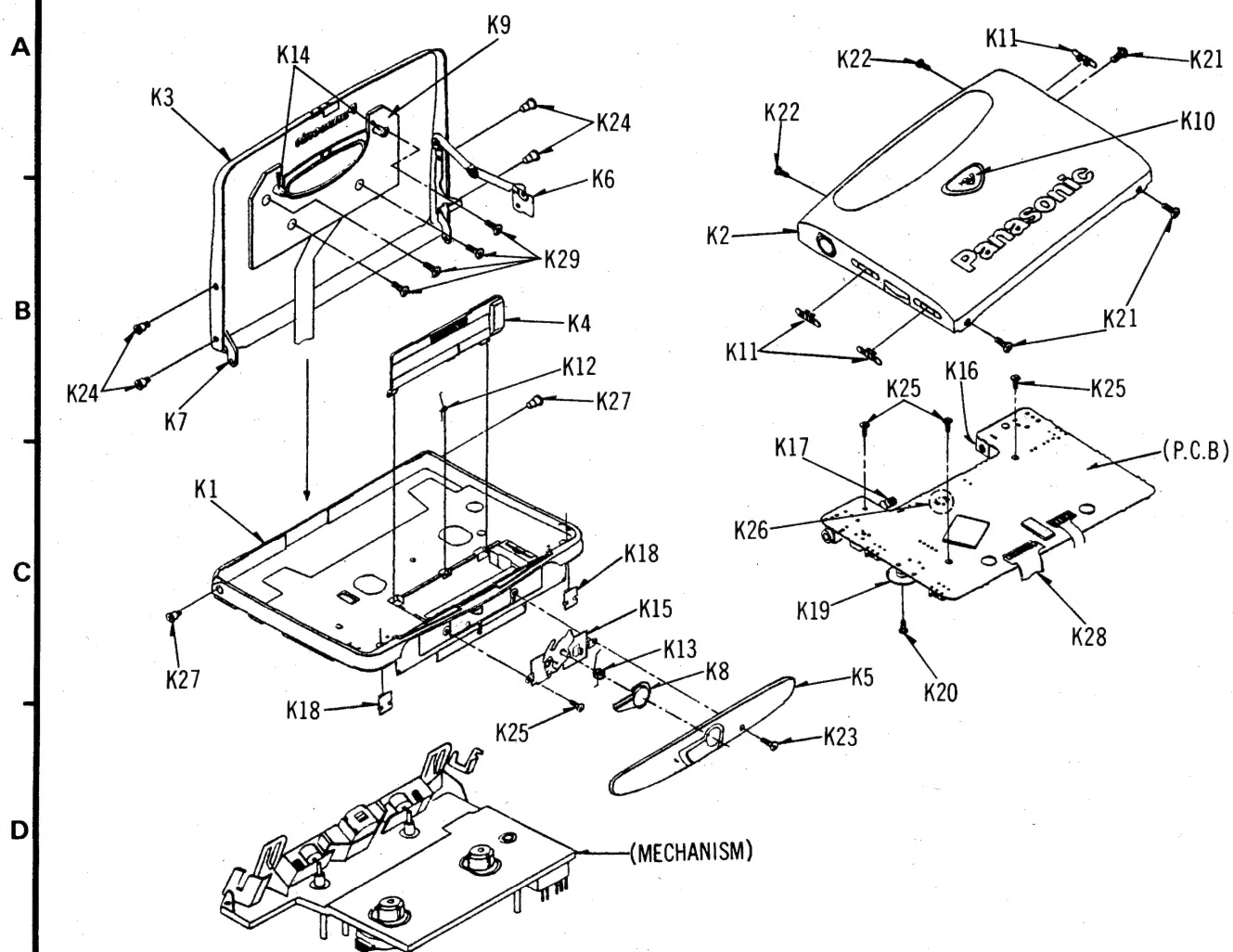
## ■ REPLACEMENT PARTS LIST

Notes: [T] Indicates parts that are supplied by TAMACO

Ref No.	Part No.	Part Name & Description
MECHANICAL PARTS		
M1 [T]	RDP0069	Center Pulley
M2 [T]	RFKRQXV30C	Flywheel F Ass'y
M3 [T]	RFKRQXV30D	Flywheel R Ass'y
M4 [T]	RDR0030	Reel Cap
M6 [T]	RDG0274	Reel Gear
M7 [T]	RFKRQX10EC	Idler Gear Ass'y
M8 [T]	RDG0276	Change Gear A
M9 [T]	RDG0277	Change Gear B
M10 [T]	RMQ0434	Changing Plate
M11 [T]	RFKRQXV30B	Friction Gear Ass'y
M12 [T]	RDG0280	Operation Gear
M13 [T]	RML0335-2	Head Arm
M14 [T]	RFKRQX10EE	Pinch Roller Arm Ass'y F
M15 [T]	RFKRQX10EF	Pinch Roller Arm Ass'y R
M16 [T]	RFKRQXV30A	Chassis Ass'y
M17 [T]	RFKRQX10EH	Gear Lever
M18 [T]	RML0339	Change Lever
M19 [T]	RFKRQXV30E	Head Block Spacer
M20 [T]	RMB0353	Reel Spring F
M21 [T]	RMB0354	Reel Spring R
M22 [T]	RMB0356	Operation Gear Spring
M23 [T]	RMB0357-1	Pinch Arm Spring R
M24 [T]	RMB0358-1	Pinch Arm Spring F
M25 [T]	RMB0359	Head Arm Spring
M26 [T]	RDV0032	Belt
M27 [T]	BHL2B3CRA	Motor
M28 [T]	RSC0384	Shield Plate
M29 [T]	RED0033	Head Ass'y
M31 [T]	RHD14044-S	Screw (Motor)
M32 [T]	RHD14043	Screw (Rotary Switch)
M33 [T]	RHW10003	Washer
M34 [T]	RHW17009	Washer
M35 [T]	RHW11005	Washer
M36 [T]	RHW11004	Washer
M37 [T]	RHW12015	Washer
M38 [T]	RHW13014	Washer
M39 [T]	RHW13015	Washer
M40 [T]	RHW13016	Washer

Ref No.	Part No.	Part Name & Description
CABINET PARTS		
K1 [T]	RFKKQX11E-K	Middle Cabinet Ass'y
K2 [E][GC] [T]	RKST0018-K	Rear Cabinet(K)
K2 [E] [T]	RKST0018-A	Rear Cabinet(A)
K2 [E] [T]	RKST0018-S	Rear Cabinet(S)
K3 [E][GC] [T]	RFKLQX11E-K	Cassette Lid Ass'y(K)
K3 [E] [T]	RFKLQX11E-A	Cassette Lid Ass'y(A)
K3 [E] [T]	RFKLQX11E-S	Cassette Lid Ass'y(S)
K4 [T]	RKKT0005-K	Battery Cover
K5 [T]	RKQT0006-S	Upper Cabinet
K6 [T]	RMAX1001	Link Ass'y
K7 [T]	RMAT0002	Basic Angle R
K8 [T]	RGWT0005-S	Open Knob
K9 [T]	RMVT0010	P.W.B Sheet
K10 [E/GC] [T]	RGVT0024-H	Hold Knob(K)
K10 [E] [T]	RGVT0024-1H	Hold Knob(A)(S)
K11 [E/GC] [T]	RGVT0012-K	S-XBS/Dolby NR/Tape Knob (K)
K11 [E] [T]	RGVT0012-H	S-XBS/Dolby NR/Tape Knob (A)(S)
K12 [T]	RMBT0001	Spring
K13 [T]	RMBT0002	Return Spring
K14 [T]	RMGT0013-K	Stabilizer Gum
K15 [T]	RMAX1002	Lock Ass'y
K16 [T]	RJCT30005	Battery Terminal (+)
K17 [T]	RJCT70005	Battery Terminal (-)
K18 [T]	RMCT0002-1	Pack Spring
K19 [T]	RGWT0001-K	Volume Knob
K20 [T]	XSH14+4	Screw (VR)
K21 [T]	RHDT0001-K	Screw
K22 [T]	RHDT0002-K	Screw
K23 [T]	RHDT0002-S	Screw
K24 [T]	RHDT0003-K	Screw
K25 [T]	XTNR14+3	Screw
K26 [T]	RMNT0009	Phot Coupler Case
K27 [T]	RHDT0005-K	Screw
K28 [T]	RJBT0053A	FPC PWB
K29 [T]	XTNR14+35CFZ	Screw
ACCESSORY		
A1 [T]	RFEV134P-KS	Inner Phones(Remote Cont)
A2 [E] [T]	RQTT0162-E	Instruction Book
A3 [E] [T]	RQTT0196-D	Instruction Book
A4 [GC] [T]	RQTT0164-G	Instruction Book
PACKING MATERIALS		
P1 [E] [T]	RPKT0100	Decoration Box (K)
P1 [E] [T]	RPKT0128	Decoration Box (A)
P1 [E] [T]	RPKT0129	Decoration Box (S)
P1 [GC] [T]	RPKT0101	Decoration Box (K)
P2 [T]	RPFT0015	Set Bag

## ■ CABINET PARTS LOCATION



## ■ PACKAGING

